

PTO 09-7242

CC = JP
19920507
A
04133886

MOTORCYCLE FAIRING MOUNT STRUCTURE
[Jidonirinsha no fuearingu maunto kozo]

Masahiro Kamo et al.

UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. AUGUST 2009
TRANSLATED BY: THE MCELROY TRANSLATION COMPANY

PUBLICATION COUNTRY	(19):	JP
DOCUMENT NUMBER	(11):	04133886
DOCUMENT KIND	(12):	A
PUBLICATION DATE	(43):	19920507
APPLICATION NUMBER	(21):	02255235
APPLICATION DATE	(22):	19900927
INTERNATIONAL CLASSIFICATION ⁵	(51):	B 62 J 17/00
INVENTORS	(72):	Masahiro Kamo et al.
APPLICANT	(71):	Suzuki Motor Corporation
TITLE	(54):	MOTORCYCLE FAIRING MOUNT STRUCTURE
FOREIGN TITLE	[54A]:	Jidonirinsha no fuearingu maunto kozo

Claim

In a motorcycle fairing mount in which a fairing mirror that covers the front of a vehicle is provided and the aforementioned fairing is supported on the head pipe of the vehicle body frame with a cowlings brace, a motorcycle fairing mount structure characterized in that the aforementioned cowlings brace is supported floating on the aforementioned head pipe, and is supported affixed to the lower part of the head pipe.

Detailed explanation of the invention

Objective of the invention

Industrial application field

The present invention relates to a fairing mount that covers the front of a motorcycle.

Prior art

With motorcycles, the front of the vehicle is provided with a fairing to reduce air resistance. This fairing is supported on the head pipe of the vehicle body frame using the cowlings brace, and a mirror for checking behind is supported so as to float.

However, with such a fairing mount apparatus, a large amount of vibration in the top part of the head pipe is transmitted to the fairing through the cowlings brace, with the result that mirror vibration becomes significant.

On the other hand, the rearview mirror is supported floating on a mirror mounting to stay affixed to the head pipe. However, in this case, because a mirror mounting stay is installed in addition to the cowlings brace which supports the fairing, the disadvantage is that cost increases.

Means to solve the problems

With a conventional fairing mount apparatus or mirror mounting apparatus as described above, there is the risk of vibration in the rearview mirror becoming larger and cost increasing.

The present invention was devised in consideration of the abovementioned situation, with the objective of providing a motorcycle fairing mount apparatus with which vibration in the mirror mounted on the fairing can be reduced at a minimal cost.

Constitution of the invention

Means to solve the problems

The present invention is characterized in that, in a motorcycle fairing mount structure in which a fairing mirror that covers the front of a vehicle is provided and the aforementioned fairing is supported on the head pipe of the vehicle body frame with a cowling brace, the aforementioned cowling brace is supported floating on the aforementioned head pipe, and is supported affixed to the lower part of the head pipe.

Operation

Generally, with oscillation of a head pipe, the [oscillation of the] top part is larger and the lower part is smaller. Therefore, with the motorcycle fairing mount structure pertaining to the present invention, the cowling brace that supports the fairing is supported to float at the top part of the head pipe, so vibration transmitted from the head pipe to the cowling brace can be reduced. Simultaneously, because the cowling brace is supported affixed to the lower part of the head pipe, cowling brace attachment strength can be improved. The rigidity of the cowling and vibration damping can be ensured because of this, and vibration of the mirror installed on the cowling can be reduced.

Application example

Figure 1 is a partial cross section of a motorcycle showing a part of an application example of a motorcycle fairing mount structure pertaining to this invention where the front fork is omitted. Figure 2 is an overall oblique view of a motorcycle to which the application example in Figure 1 is applied.

As shown in Figure 2, in the motorcycle, front wheel 1 and rear wheel 2 are installed at the front and rear of the vehicle. Front wheel 1 is supported at the end of front fork 3, and front wheel 1 is steered with front fork 3 supported able to turn on head pipe 5 of vehicle body frame 4. Symbol 6 is a steering handle affixed to the top end of front fork 3.

Aforementioned rear wheel 2 is supported able to oscillate in the vehicle vertical orientation via a swing arm 7, and is buffered and suspended by a rear cushion unit, which is not shown. A fuel tank 8 is placed above the engine, and a sheet 9 is provided behind fuel tank 8.

A fairing 10 is placed in the area at the front of the vehicle from aforementioned front fork 3 to engine 4. Fairing 10 comprises an upper cowl 11, a center cowl and a lower cowl 13, and of these, upper cowl is supported on head pipe 5 of vehicle body frame 4 by cowling brace 14.

Next, the structure for mounting upper cowl 11 to head pipe 5 will be explained.

First, cowling brace 14, as shown in Figures 6-8, is configured with a left and right pair of brace tubes bent 15 into a U shape toward the front of the vehicle, a brace upper bridge 16 spanning between the brace tubes 15, and a brace lower bridge 18 spanning between the pair of left and right brace tubes 15 via a lower bridge reinforcement 17.

A brace upper tube 19A and a brace lower tube 19B are affixed at positions in the center, from left to right of the vehicle, of brace upper bridge 16 and brace lower bridge 18, respectively, and a brace upper

holder 20 and a brace lower holder 21 are affixed at the ends thereof, respectively. Brace upper holder 20 and brace lower holder 21 are formed in a J-shaped cross section.

A mirror mounting bracket 22 is installed at the top end of the pair of left and right brace tubes 15. A brace tube reinforcement 23 is affixed near where brace tube 15 and brace upper bridge 16 are joined. In addition, a headlamp upper bracket 24 and a headlamp lower bracket 25, for mounting a headlamp which is not shown, are affixed to brace upper bridge 16 and brace lower bridge 18, respectively. Cowling brace 14 is constituted as described above.

Then, as shown in Figure 2, an upper bracket 26 and a lower bracket 27 are affixed to the upper part and the lower part, respectively, in the axial orientation of head pipe 5. A connecting piece 28 is attached with a bolt 29 or the like (Figure 3) to upper and lower brackets 26 and 27.

An upper hole 30 and a lower hole 31 are each provided through connecting piece 28 on the fairing 10 side, and an elastic bushing 32 is fit in upper hole 30, and a space 33 is installed on the inside of elastic bushing 32, as shown in Figure 4. In this state, connecting piece 28 is fit with brace upper holder 20 and brace lower holder 21 of cowling brace 14. Then a bolt 34 is inserted into brace lower holder 21 and lower hole 31 of connecting piece 28, and by fastening with a nut 35, cowling brace 14 is supported secured to the lower part of head pipe 5 with connecting piece 28 between.

A bolt 36 is also inserted into brace upper holder 20 and space 33, and by fastening with a nut 37, cowling brace 14 is supported at the top part of head pipe 5 and floats using elastic bushing 32. As shown in Figure 5, the form [of the bushing] is cylindrical, and a flange 38 to prevent loosening is formed projecting at both outside ends.

Upper cowl 11, as shown in Figure 1, is provided on cowling brace 14 which is supported on head pipe 5 as described above. Then rearview mirror 39 is secured using a bolt, not shown, to mirror mounting bracket 22 of cowling brace 14 from the outside of upper cowl 11.

Generally, vibration by head pipe 5 of vehicle body frame 4 is greater at the top than the bottom. Therefore, with the aforementioned application example, because brace upper tube 19A of cowling brace 14 is supported to float at the upper part in the center of head pipe 5 with elastic bushing 32, vibration from the upper part in the center of head pipe 5 can be damped by elastic bushing 32. The result is that vibration by mirror 39 mounted on mirror mounting bracket 22 of cowling brace 14 can be reduced.

In addition, when a headlamp, which is not shown, is installed on headlamp upper bracket 24 and headlamp lower bracket 25 of mounting brace 14, vibration by cowling brace 14 can be reduced by elastic bushing 32, so the frequency of lamp failure can be reduced.

Brace lower tube 19B of cowling brace 14 is also supported secured at the lower part of head pipe 5, so the mounting strength of cowling brace 14 is improved, with the result that the rigidity of fairing 10 can also be improved.

In addition, mirror 39 is mounted on mirror mounting bracket 22 formed at the upper level of brace tube 15 of cowling brace 14, so cost can be reduced, since no stay for mounting mirror 39 is mounted on head pipe 5.

Effect of the invention

With the motorcycle fairing mount structure pertaining to the present invention as above, the cowling brace, which supports a fairing on which a mirror is mounted, is supported to float at the upper part of the head pipe, and is supported secured to the lower part of the head pipe, so vibration in the aforementioned mirror can be reduced at low cost.

Brief description of the figures

Figure 1 is a partial side view of a motorcycle showing an application example of a motorcycle fairing mount structure pertaining to this invention in which a part is shown in cross section and the front fork is omitted. Figure 2 is an overall side view of a motorcycle to which the application example in Figure 1 is applied. Figure 3 is an assembled oblique view showing the cowling brace in Figure 1 mounted. Figure 4 is a cross section along line IV-IV in Figure 1. Figure 5 is a half cross section showing the elastic bushing in Figure 4. Figure 6 is a side view of the cowling brace shown in Figure 1. Figure 7 and Figure 8 are a view at arrow VII and a view at arrow VIII, respectively, of Figure 6.

5 ... head pipe, 10, fairing, 11 ... upper cowl, 14 ... cowling brace, 15 ... brace tube, 19A ... brace upper tube, 19B ... brace lower tube, 20 ... brace upper holder, 21 ... brace lower holder, 22 ... mirror mounting bracket, 28 ... connecting piece, 32 ... elastic bushing, 34 ... bolt, 35 ... nut, 36 ... bolt, 37 ... nut, 39 ... mirror.

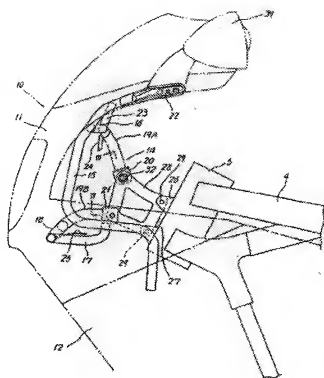


Figure 1

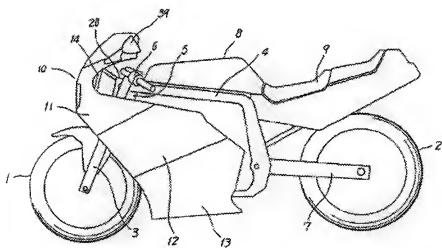


Figure 2

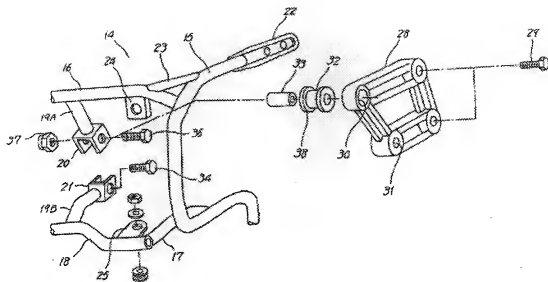


Figure 3

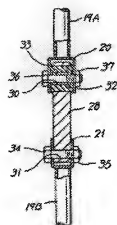


Figure 4

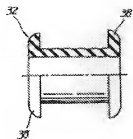


Figure 5

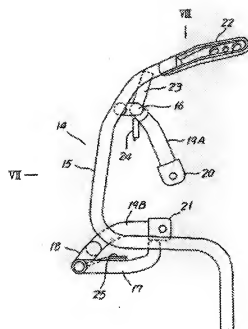


Figure 6

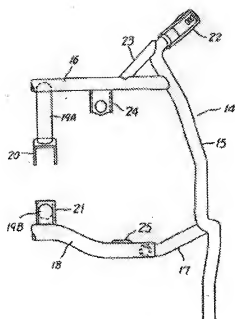


Figure 7

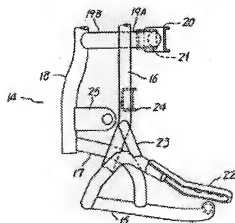


Figure 8